

RESPONSE TO OFFICE ACTION  
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**REMARKS**

This response is intended as a full and complete response to the Office Action dated March 15, 2004. In view of the amendments and the following discussion, the Applicant believes that all claims are in allowable form.

**CLAIM REJECTIONS**

**A. 35 U.S.C. §103(a) Claims 1, 5-14 and 18-29**

Claims 1, 5-14 and 18-29 stand rejected as being obvious over U.S. Patent No. 5,765,444, issued June 16, 1998 to *Bacchi et al.* (hereinafter referred to as "*Bacchi I*") or over U.S. Patent No. 6,155,768, issued December 5, 2000 to *Bacchi et al.* (hereinafter "*Bacchi II*"). In response, the Applicant has amended independent claims 1, 11 and 24 to more clearly recite aspects of the invention.

Independent claims 1, 11 and 24, as amended, recite limitations not taught, shown or suggested by *Bacchi I* or *Bacchi II*. *Bacchi I* and *Bacchi II* teach a wafer transfer device having a main link centrally coupled to a robot base or hub. At opposite ends of the hub, extension arms are coupled. Each extension arm comprises a first arm coupled to the main link, a second arm coupled to the first arm opposite the main link, and a blade or robot hand coupled to the second arm opposite the first arm. Respective first and second extension motors drive the extension arm. The first extension motor is adapted to rotate the second arm about a first axis that passes through the connection to the first arm. The second extension motor is adapted to rotate the first arm about a second axis passing through the connection to the main link. Simultaneous operation of the first and second extension motors further enables the blade to rotate about the second axis (see, *Bacchi I*, column 5, lines 54-57 or *Bacchi II*, column 6, lines 9-12: "Coordinated operation of first and second motors 50R and 52R in conjunction with the mechanical linkage described below causes hand 30R (e.g., blade) to rotate about shoulder axis (e.g., second axis) 16R.").

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Therefore, neither *Bacchi I* nor *Bacchi II* teaches, shows or suggests a robot apparatus including an extension motor that is configured to independently rotate a robot blade about an axis passing through an end of a main robot link, as recited in claims 1, 11 and 24 as amended.

The Examiner submits that the Applicant's claims do not limit each claimed extension arm to only one motor, and that, therefore, the Applicant's claims would read on a robot apparatus having more than one motor per extension arm, such as the robot apparatus taught by *Bacchi I* and *Bacchi II*. However, the Applicant submits that, as stated above, none of the extension motors taught by *Bacchi I* and *Bacchi II* is independently capable of rotating the robot blade; at least two motors operating in conjunction are clearly required. Thus, even if the Applicant's claimed invention was modified to include one or more additional motors, the Applicant's invention would still not be obviated by *Bacchi I* or *Bacchi II* because neither reference teaches even one motor that is capable of independently rotating the robot blade, as recited in claims 1, 11 and 24. The Applicant's invention is therefore clearly more efficient, as it can accomplish the same task using fewer individual components.

Thus, the Applicant submits that independent claims 1, 11, and 24, and claims 5-10, 12-15, 18-23 and 35-29 that depend therefrom, are patentable over *Bacchi I* and *Bacchi II*. Accordingly, the Applicant respectfully requests the rejection be withdrawn.

**B. 35 U.S.C. §103(a) Claims 2 and 15**

Claims 2 and 15 stand rejected as being unpatentable over *Bacchi II* in view of U.S. Patent No. 6,212,968, issued April 10, 2001 to *Hiruma et al.* (hereinafter referred to as "*Hiruma*"). The Applicant respectfully disagrees.

As discussed above, independent claims 1 and 11 from which claims 2 and 15 respectively depend, are patentable over *Bacchi II*. In the instant case, *Hiruma* fails to teach or suggest a first extension motor configured to independently rotate a robot blade about an axis passing through a main robot link, as recited by claims 1 and 11. Thus, *Hiruma* may not be utilized to modify the wafer transfer device of *Bacchi II* to teach or suggest the invention of claims 1 and 11.

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Accordingly, it is respectfully submitted that the combination of *Bacchi II* in view of *Hiruma* does not render claims 1 and 11 obvious. Thus, the Applicant submits that claims 2 and 15, depending respectfully from claims 1 and 11, are patentable over *Bacchi II* in view of *Hiruma*. Accordingly, the Applicant respectfully requests the rejection be withdrawn.

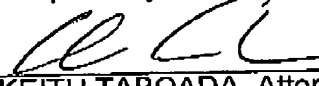
**CONCLUSION**

Thus, the Applicant submits that all claims now pending are in condition for allowance. Accordingly, both reconsideration of this application and its swift passage to issuance are earnestly solicited.

If, however, the Examiner believes that any unresolved issues still exist, it is requested that the Examiner telephone Mr. Keith Taboada at (732) 530-9404 so that appropriate arrangements can be made for resolving such issues as expeditiously as possible.

Respectfully submitted,

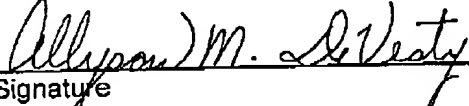
June 11, 2004

  
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